

What is Claimed:

1. A strobe control circuit comprising:
circuitry for accommodating input voltages having on the order of 100
percent amplitude variation; and
5 circuitry responsive to a selected candela output for altering a charging
parameter.
2. A strobe circuit as in claim 1 wherein the responsive circuitry includes
a circuit for charging a capacitor to a selected voltage notwithstanding variations in the
input voltage.
- 10 3. A strobe circuit as in claim 1 which includes a programmed processor
having pre-stored indicia associated with a plurality of candela outputs.
4. A strobe circuit as in claim 3 which includes an output candela specifier.
5. A strobe circuit as in claim 4 wherein the candela specifier comprises at
least one of a manually settable element, and an electrically settable element.
- 15 6. A strobe circuit as in claim 2 wherein the responsive circuitry includes
circuitry for monitoring a capacitor voltage while charging same.
7. A strobe circuit as in claim 6 wherein a charging rate can be altered in
real-time during respective charging cycles.
8. A strobe circuit as in claim 6 which includes capacitor charging circuitry
20 with a variable capacitor charging rate.
9. A strobe circuit as in claim 8 which includes circuitry for varying the
charging rate responsive to the time required to achieve a selected capacitor voltage.
10. A strobe comprising:
a housing;
25 a gas filled tube;
a capacitor coupled to the tube;
a candela specifying element;
input terminals for receipt of voltages in a range of 10-30 volts; and
control circuitry carried in the housing,

coupled to the capacitor, the specifying element and the input terminals.

11. A strobe as in claim 10 wherein the control circuitry stores parameters indicative of each specifiable candela.

12. A strobe in accordance with claim 11 including circuitry for energizing the tube in accordance with the specified candela.

13. A strobe as in claim 10 which includes circuitry responsive to the voltage applied to the terminals for energizing the tube in accordance with the candela specifying element.

14. A strobe as in claim 13 wherein the control circuitry includes a programmed processor and storage for output parameters associated with respective specifiable candela.

15. A strobe as in claim 14 wherein the processor executes pre-stored instructions for altering a charging rate of the capacitor in response to a selected output parameter.

16. A strobe as in claim 15 wherein the control circuitry illuminates the tube, at least at a first predetermined rate, and wherein the instructions alter the charging rate between illuminations.

17. A strobe as in claim 16 wherein the instructions repetitively increase the charging rate between illuminations in response to a need to increase capacitor voltage.

18. A strobe as in claim 16 which includes constant frequency, variable duty cycle capacitor charging circuitry.

19. A strobe as in claim 18 wherein the instructions alter the duty cycle in response to applied input voltage.

20. A method of energizing a load comprising:
responding to an applied source of energy which varies over a nominal range by 100 percent;

responding to a selected load output characteristic;
repetitively energizing the load at a predetermined rate in accordance with both the applied source and the selected output characteristic.

21. A method as in claim 20 which also includes changing the way in which the load is repetitively energized in accordance with the selected load output characteristic.

5 22. A method as in claim 21 wherein the load comprises an illuminatable element and the selected load output corresponds to an illumination level.

23. A method as in claim 22 wherein a duty cycle for energizing the illuminatable element is alterable to provide a selected output illumination level.

24. A method as in claim 20 which includes storing at least one time based parameter associated with a selected output characteristic.

10 25. A method as in claim 24 wherein energy is supplied to the illuminatable element at the predetermined rate with a variable duty cycle.

26. A method as in claim 25 which includes adjusting the duty cycle in response to a feedback signal from the illuminatable element.

15 27. A method as in claim 26 which includes comparing a representation of the feedback signal to the stored time based parameter.

28. A method as in claim 27 which includes retrieving a selected time based parameter from a plurality of stored time based parameters.

29. A method as in claim 28 which includes determining the selected time based parameter in response to a specified illumination output level.

20 30. A method as in claim 20 which includes storing at least one amplitude based parameter associated with a selected output characteristic.

31. A method as in claim 30 wherein energy is supplied to the illuminatable element at the predetermined rate with a variable duty cycle.

25 32. A method as in claim 31 which includes adjusting the duty cycle in response to a feedback signal from the illuminatable element.

33. A method as in claim 32 which includes comparing a representation of the feedback signal to the stored amplitude based parameter.

34. A method as in claim 33 which includes retrieving a selected amplitude based parameter from a plurality of stored amplitude based parameters.

35. A method as in claim 34 which includes determining the selected amplitude based parameter in response to a specified illumination output level.

36. A method as in claim 20 which includes storing a plurality of amplitude based parameters associated with respective selectable output characteristics.

5 37. A multi-candela output unit comprising:
a variable input voltage receiving power supply;
a control circuit coupled to the supply;
a visual output device coupled to the control circuit;
an output candela specifying signal coupled to the control circuit wherein
10 the control circuit intermittently energizes the output device to produce the specified output candela wherein a maximum value of the input voltage can vary over a range of at least two-to-one.

38. A unit as in claim 37 wherein the control circuit includes an analog-to-digital converter for detecting a voltage applied to the output device.

15 39. A unit as in claim 38 wherein a duty cycle parameter is adjusted in accordance with the detected value of the voltage applied to the output device.

40. A unit as in claim 37 which includes an output device feedback line coupled to the control circuit wherein a feedback signal on the line is selected from a class which includes an analog voltage corresponding to a voltage applied to the output
20 device and a digital voltage having at least two states wherein one state is indicative of a voltage applied to the output device exceeding a first value and another state is indicative of that voltage being less than the first value.

41. A unit as in claim 40 wherein the output device comprises a flashable gas filled tube.

25 42. A unit as in claim 40 wherein the control circuit comprises a programmed processor and a plurality of executable instructions.

43. A unit as in claim 42 which includes a stored plurality of candela indicating parameter values.

44. A unit as in claim 43 which includes executable instructions for retrieving a stored candela indicating parameter value in response to the output candela specifying signal.

5 45. A unit as in claim 37 wherein the output candela specifying signal is establishable by at least one of a remotely supplied indicator and a locally supplied indicator.

46. A unit as in claim 44 wherein the output candela specifying signal is establishable by at least one of a remotely supplied indicator and a locally supplied indicator.

10 47. A unit as in claim 37 wherein the power supply receives one of a DC-type input and an AC-type input.

48. A unit as in claim 47 wherein the power supply receives a rectified AC-type input.

15 49. A strobe unit comprising:
a source of illumination;
a feedback circuit, coupled to the source, which provides electrical signals indicative of one of a voltage or a current associated with the source;
a control circuit, coupled to the source and the feedback circuit, wherein the control circuit includes an input port for receipt of an illumination output specifying indicium; and
20 a power supply with an input port wherein an applied voltage parameter can vary in a range of about 4:1.

25 50. A unit as in claim 49 which includes an indicium providing input element, coupled to the input port, wherein the input element can be set to a selected indicium by one of a local input or a remotely generated input.

51. A unit as in claim 50 which includes a manually settable, illumination output specifying member.

52. A unit as in claim 49 wherein the input energy is in the form of one of DC-type or AC-type.

53. A unit as in claim 49 wherein the input energy has a DC-type voltage that varies in a range of about 8-30 volts.

54. A unit as in claim 49 wherein the input energy comprises rectified AC with an RMS value in a range of about 8-30 volts.

5 55. A control circuit for a triggerable strobe light comprising:
a set of pre-stored, executable instructions wherein some of the instructions monitor an input amplitude value of one of DC or RMS value of rectified AC with other instructions responding to a selected one of a plurality of pre-stored different light outputs, and, with other instructions responding to a real-time feedback
10 value from the light, during each flash cycle, to adjust a charging duty cycle parameter to produce the selected light output in the presence of variations in the input amplitude in excess of 3:1.

56. A control circuit as in claim 55 including instructions wherein at the start of each flash cycle, a current charging duty cycle parameter value is achieved by starting
15 at a pre-selected percentage thereof and increasing same to a maximum value thereof during a predetermine period of time.

57. A control circuit as in claim 56 wherein executable instructions increase the charging duty cycle parameter value in a predetermined number of increments.

58. A control circuit as in claim 55 which includes circuitry for feeding back
20 a voltage indicium across a light energizing capacitor and wherein the other executable instructions process the feedback indicium in adjusting the charging duty cycle parameter.

59. A monitoring system comprising:
a common control unit;
25 a communications medium coupled to the control unit;
a plurality of visual output devices wherein the members of the plurality each include a selectable output light parameter and a feedback control system, coupled to a flashable light source, for adjusting a charging duty cycle and providing the selected output light in response to various supply voltages.

60. A system as in claim 59 wherein members of the plurality each include a power supply, responsive to one of a DC input voltage, and an AC RMS input voltage wherein an input voltage parameter varies over a range of about 3:1.

5 61. A system as in claim 60 wherein electrical energy and synchronizing signals are carried by the medium.